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ADVANCING AUDIT QUALITY THROUGH EMERGING TECHNOLOGIES: EXPLORING OPPORTUNITIES AND OVERCOMING CHALLENGES

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Abstract
This study investigates how emerging technologies, especially Artificial Intelligence (AI) and Big Data, contribute to improving audit quality. By conducting a systematic literature review of Scopus indexed articles published from 2019 to 2024, the research highlights both the opportunities and challenges involved in implementing these technologies within auditing practices. The findings reveal that AI contributes significantly to audit quality by automating repetitive tasks, improving fraud detection, enhancing data analysis, and enabling more informed auditor judgment. Furthermore, the use of AI and digital tools has been shown to increase efficiency and reduce audit costs. Several challenges persist, including ethical concerns, data security risks, technological readiness disparities among audit firms, and a lack of clear regulatory standards. The study synthesizes theoretical and empirical insights using various frameworks such as Agency Theory, Institutional Theory, and the Technology-Organization-Environment framework, offering a multidimensional understanding of AI adoption in auditing. The results underscore the necessity for auditors to adjust to rapidly advancing technological developments while upholding ethical standards and professional skepticism. This study adds to the expanding discussion on the digital transformation of auditing practices by highlighting the balance between technological innovation and audit integrity.

Keywords: ***Audit Quality, Artificial Intelligence, Big Data.***

INTRODUCTION

The adoption of emerging technologies, particularly artificial intelligence (AI) in auditing introduces valuable opportunities alongside notable challenges that can significantly affect the quality of audits. AI enhances audit quality by automating time-consuming tasks, thereby reducing errors and improving precision. AI supports auditors in conducting more effective substantive testing by swiftly processing extensive datasets to uncover irregularities that may indicate fraud or inaccuracies (Rahman et al., 2024). This capability is particularly beneficial in the context of sustainability reporting, where AI-powered methods such as machine learning and natural language processing have shown promise in enhancing the quality of audits by improving fraud detection efficacy (Ananda, 2024). Automating routine tasks enables auditors to concentrate on more complex analyses, which enhances the overall quality of the audit process. (Seethamraju & Hecimovic, 2022).

The adoption of AI not only improves the quality of audits but also enhances their efficiency. Research indicates that AI can streamline various stages of the audit process, from planning to execution, by providing advanced risk assessment tools that help auditors identify areas of concern more effectively (Onwubuariri et al., 2024). This holds particular significance when dealing with big data analytics, in which the capacity to rapidly process large volumes of information can result in more informed decision-making and better audit outcomes (Kend & Nguyen, 2020). Moreover, the integration of AI technologies can lead to cost efficiencies, as firms can achieve higher quality audits with fewer resources, thereby reducing audit fees for clients (Fedyk et al., 2022). This shift towards AI-augmented auditing is likely to create a competitive advantage for firms that embrace these technologies early on (Ríkhardsson et al., 2022).

Shifting to AI-powered auditing presents several challenges. One significant concern is the potential for a skills gap among auditors, as the profession must adapt to new technologies and methodologies (Dahabiyeh & Mowafi, 2023). Auditors must receive training not only in utilizing AI tools but also in understanding the implications of these technologies on audit quality and ethics (Odeyemi et al., 2023). Furthermore, increased

dependence on digital tools raises concerns about data privacy and security, heightening the risk of data breaches and the misuse of sensitive information (Antwi et al., 2024).

The use of AI and other emerging technologies in auditing brings to light important questions regarding the adaptation of professional standards and regulatory guidelines in response to technological advancements. As these technologies become more prevalent, there is a pressing need for auditing standards to adapt to the new landscape, ensuring that they remain relevant and effective in promoting high-quality audits (Kend & Nguyen, 2022). This includes establishing guidelines for the ethical use of AI and ensuring that auditors maintain professional skepticism, even when relying on automated tools (Antwi et al., 2024). Moreover, the possibility of heightened audit risks related to AI usage must be diligently addressed, since dependence on technology can occasionally cause auditors to become complacent (Kend & Nguyen, 2022).

Besides AI, other emerging technologies like robotic process automation (RPA) and block chain are reshaping the auditing field. RPA automates repetitive tasks, boosting efficiency and enabling auditors to focus more on high-value activities (Dahabiyeh & Mowafi, 2023). Block chain technology, on the other hand, offers the potential for real-time auditing and increased transparency in financial reporting, which can significantly enhance the reliability of audit outcomes (Federicco & Tandiono, 2023). Incorporating these technologies demands a change in mindset and practices within audit firms, since conventional approaches may no longer be adequate in a technology-driven setting (Schreuder & Smuts, 2023).

Existing research Rikhardsson (2022); Garcia-Vera (2023); Odeyemi, et al. (2024); Rahman, et al. (2024), explores AI in auditing through various theoretical lenses, such as Agency Theory, Institutional Theory, and Contingency Theory, there remains a gap in understanding the practical integration of AI in enhancing audit quality beyond theoretical frameworks. Most studies such as Ayling & Chapman (2021); Dahabiyeh & Mowafi (2023); Rahman, et al (2024); Antwi, et al (2024), focus on the managerial, ethical, and regulatory aspects of AI adoption, but fewer address the real-world challenges and effectiveness of AI-driven audit tools in detecting fraud, reducing errors, and improving auditor decision-making. Additionally, while Public Sector Accountability Theory highlights AI's role in transparency, research is still limited on how AI adoption varies across different audit environments, such as corporate auditing versus government audits.

This research provides an updated perspective on the integration of Artificial Intelligence in audit quality by systematically reviewing recent studies that go beyond theoretical discussions and addresses the practical implementation challenges and evaluates empirical evidence on AI's effectiveness in enhancing audit quality. This Systematic Literature Review (SLR) aims to analyze existing research on the opportunities and challenges associated with AI adoption in auditing. By synthesizing relevant studies, the review seeks to identify key trends, benefits, and potential risks, providing valuable insights for auditors, regulatory bodies, and organizations aiming to leverage AI for better audit outcomes. This study aims to answer the questions; (1) how do the integration of AI and Big Data technologies influence the quality and effectiveness of the auditing process?; (2) what are the main challenges faced in the implementation of Artificial Intelligence (AI) in auditing?; and (3) does the implementation of AI and digital tools transform modern auditing practices. This study identifies how does the integration of AI and Big Data reveal challenges that hinder the full adoption of these technologies and highlights the ongoing transformation of modern auditing to ensure that technological advancements contribute positively to audit integrity and reliability.

LITERATURE REVIEW

1. Artificial Intelligence (AI)

Artificial Intelligence (AI) refers to computer systems designed to carry out tasks that typically require human intelligence, including reasoning, learning, solving problems, perceiving, and interpreting natural language. AI systems function by leveraging large datasets, complex algorithms, and computational power to recognize patterns and make decisions with minimal human intervention (Russell & Norvig, 2021). Artificial Intelligence (AI) is increasingly recognized as a transformative force in the field of auditing. It enhances the efficiency of audit processes by automating routine tasks such as data extraction, reconciliation, and document analysis, allowing auditors to allocate more time to judgment-based and strategic activities. This automation significantly improves audit quality and timeliness, especially since AI systems can efficiently handle vast amounts of both structured and unstructured data more effectively than manual methods. Firms such as KPMG and PwC have integrated AI technologies into their audit platforms to streamline the identification of anomalies and reduce manual workload (Kokina et al., 2021).

AI contributes to more robust data analysis allowing auditors to analyze complete datasets instead of depending solely on traditional sampling techniques. This holistic approach improves the detection of irregularities

and enhances risk assessment accuracy. Continuous auditing has also become more feasible through AI, as it supports real-time monitoring of transactions and control systems, thereby offering more timely and relevant insights for decision-makers. The implementation of Natural Language Processing (NLP) tools further supports audit efficiency by enabling the review of large volumes of textual data, such as contracts or legal documents, which can now be processed and interpreted rapidly (Al-Shaer & Zaman, 2022).

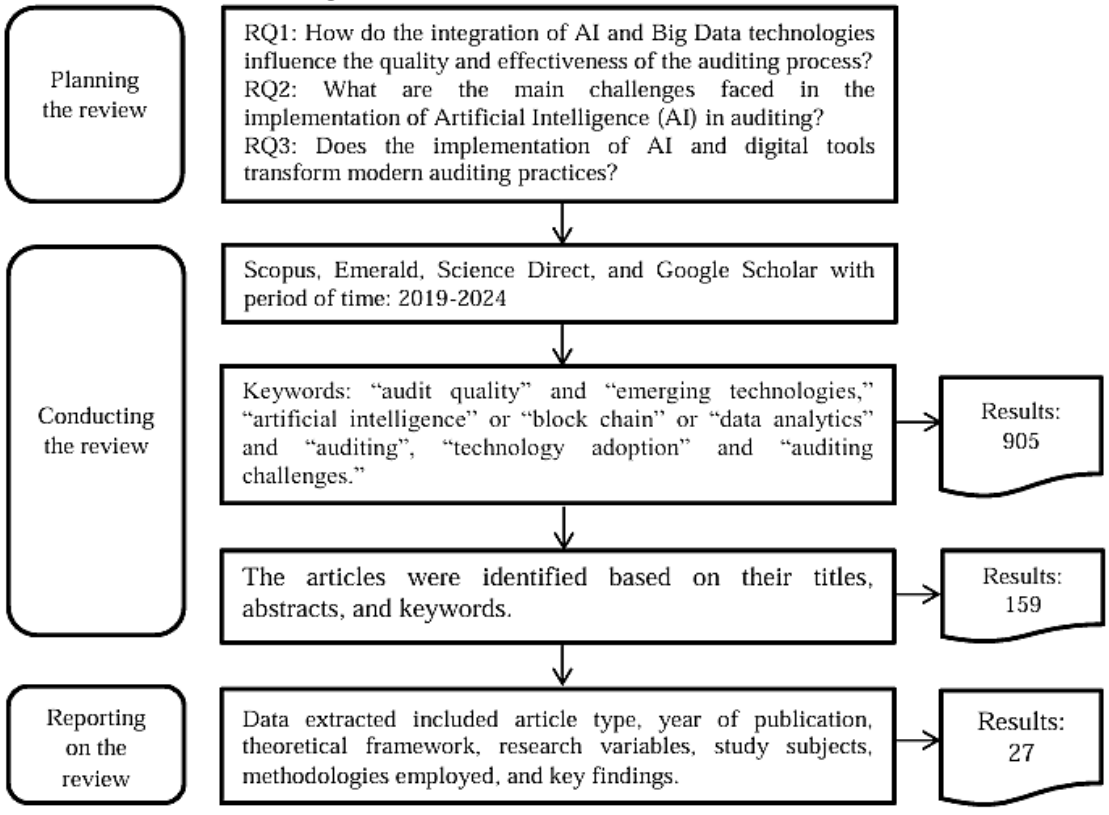
2. Audit Quality

Audit quality defines as the probability that an audit will achieve its primary objective to enhance the confidence of users in financial statements through the auditor's opinion on whether the financial statements accurately reflect the financial position in line with the relevant financial reporting framework (IAASB, 2014). This concept is elaborated in the IAASB's Framework for Audit Quality (2014), which outlines five key elements that contribute to a high-quality audit environment: input factors (such as auditor competence and ethical behavior), the audit process (including adherence to auditing standards), outputs (like the audit report), key interactions (with management, governance, and regulators), and contextual factors (including the regulatory and corporate governance environment). Audit quality is a key element in financial reporting and corporate governance, representing how effectively an audit offers a high level of assurance that the financial statements do not contain significant errors or misstatements. High-quality audits contribute to the credibility and reliability of financial information, thus strengthening investor confidence and market integrity.

According to DeFond and Zhang (2014), audit quality can be defined as the combined likelihood that an auditor identifies and appropriately reports material misstatement. This definition emphasizes two critical dimensions: auditor competence (to detect errors) and auditor independence (to report them objectively). Regulatory oversight and enforcement mechanisms, such as those by the Public Company Accounting Oversight Board (PCAOB) or International Auditing and Assurance Standards Board (IAASB), further support audit quality by establishing rigorous auditing standards and monitoring compliance. Research by Francis (2011) highlights that institutional environments, including legal systems and enforcement strength, significantly affect audit outcomes across countries. The emergence of technological tools and AI in auditing introduces both opportunities and risks, as discussed by Knechel et al. (2020), who emphasize the need for auditors to maintain critical thinking alongside automated techniques to preserve audit quality.

METHOD

Figure 1. SLR Protocol Information Source



This study adopts a qualitative approach using a structured literature review to examine how emerging technologies contribute to enhancing audit quality, while also exploring the challenges associated with their adoption. A systematic literature review (SLR) method was selected to provide a comprehensive and transparent process for identifying, evaluating, and synthesizing existing studies. The search was limited to the period between January 2019 and March 2024 to capture the most recent developments. Keywords used in the search such as "audit quality" and "emerging technologies," "artificial intelligence" or "block chain" or "data analytics" and "auditing" as well as "technology adoption" and "auditing challenges".

Selection criteria were implemented to guarantee the relevance and high quality of the studies included in the review. Only Scopus indexed articles written in English and published were considered with total of 159 articles. The selected 27 literatures were analyzed thematically to extract key insights. Themes included the types of technologies integrated into audit practices, their impact on audit quality, and the practical challenges faced in implementation. A narrative synthesis was then used to integrate and interpret the findings from the selected studies.

Table 1 provides the distribution of reviewed studies across various academic journals, categorized by their Scopus quartile ranking (Q1 to Q4). Most of the studies have been published in reputable and high-impact journals, particularly those ranked in Q1 and Q2, indicating a strong preference for or success in targeting reputable journals. The presence of journals from lower quartiles (Q3 and Q4) also suggests efforts to reach broader academic audiences, although with less frequency. The journals listed span a range of disciplines, including accounting, auditing, finance, business, and evolving technologies, including artificial intelligence.

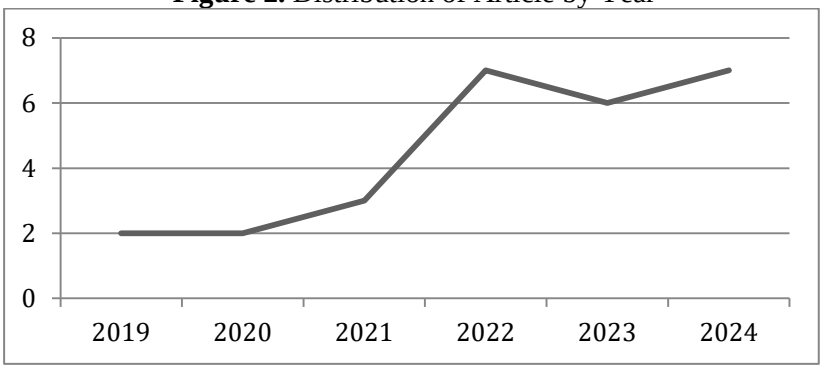
Table 1. Count of Published Reviewed Studies

No	Journal	Rank	Number of Articles
1	Artificial Intelligence Review	Q1	1
2	Auditing: A Journal of Practice & Theory	Q1	1
3	Financial Accountability and Management	Q1	1
4	Managerial Auditing Journal	Q1	2
5	Meditari Accountancy Research	Q1	1
6	Review of Accounting Studies	Q1	1
7	Revista Transdiciplinaria De Estudios Sociales Y Tecnológicos	Q1	1
8	AI Magazine	Q2	1
9	Asian Review of Accounting	Q2	1
10	Australian Accounting Review	Q2	1
11	Australian Journal of Management	Q2	1
12	Finance & Accounting Research Journal	Q2	2
13	IJDAR	Q2	1
14	Intelligent Systems in Accounting Finance & Management	Q2	1
15	Journal of Emerging Technologies in Accounting	Q2	1
16	Journal of International Accounting, Auditing and Taxation	Q2	1
17	Journal of Risk and Financial Management	Q2	1
18	Asian Economic and Financial Review	Q3	1
19	International Journal of Research in Business and Social Science	Q3	1
20	Journal of Accounting Literature	Q3	1
21	Journal of Applied Business and Technology	Q3	1
22	International Journal of Applied Economics Finance and Accounting	Q4	1
23	AI and Ethics	-	1
24	E3s Web of Conferences	-	1
25	World Journal of Advanced Research and Reviews	-	1

RESULTS AND DISCUSSION

The reviewed studies are published across a diverse range of journals and publishers, indicating a broad academic interest in the subject. The journals each contribute a single article, signifying a more limited but still relevant engagement with the topic. This distribution highlights the interdisciplinary nature of the research, spanning areas such as accounting, finance, management, and artificial intelligence.

Figure 2. Distribution of Article by Year



The distribution of articles over the years shows a fluctuating trend. As shown in figure 2, the number of published articles in 2019 was relatively high, but it experienced a significant decline in 2020 and remained low in 2021. However, there was a sharp increase in 2022, reaching the highest point in the dataset, and this peak continued into 2023 and 2024. This pattern suggests that research interest in the subject experienced a period of stagnation before rapidly growing and then slightly tapering off in the most recent year.

Figure 3. Distribution of Article by Method

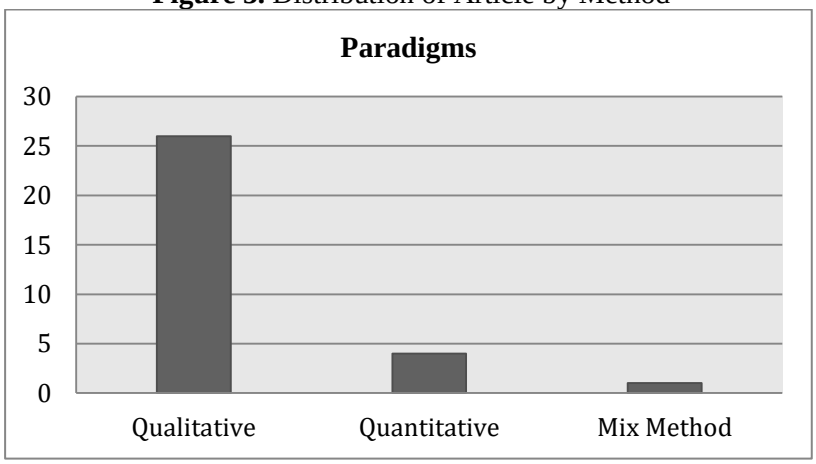


Figure 3 provides the distribution of research paradigms indicates a strong preference for qualitative methods. The majority of studies employ a qualitative approach, significantly outnumbering both quantitative and mixed-method studies. Quantitative research is used to a much lesser extent, while mixed-method approaches are the least utilized. This suggests that researchers in this field predominantly focus on exploring in-depth insights, interpretations, and contextual understanding rather than relying on numerical data or integrating both qualitative and quantitative analysis. The limited use of mixed methods may indicate a gap in comprehensive studies that combine both paradigms for a more holistic analysis

1. Enhancing Audit Quality through AI and Big Data Technologies

AI technologies have demonstrated the ability to enhance audit quality by automating repetitive tasks, which minimizes human errors and boosts efficiency. For instance, Rahman (2024) notes that implementing AI can improve audit quality by supporting substantive testing and automating routine tasks, enabling auditors to concentrate on more complex evaluations. AI adoption can lead to more efficient and effective audit processes, enabling auditors to make better judgments and thus improve audit quality (Seethamraju & Hecimovic, 2022). Furthermore, the use of AI-driven tools enhances data analysis capabilities, anomaly detection, and risk assessment, which are critical components of the auditing process (Odeyemi et al., 2023).

The literature also highlights the role of big data analytics in conjunction with AI to further bolster audit quality. Gepp et al. (2018) discuss how big data techniques can inform audit practices and improve the robustness

of audit research. Sun & Vasarhelyi (2018) elaborate on the contributions of textual data analytics, which can facilitate fraud detection and anomaly identification, thereby enhancing the overall quality of audits. The adoption of these technologies not only simplifies the auditing process but also provides auditors with deeper insights into the data they analyze.

The integration of AI technologies like machine learning and natural language processing has shown promise in advancing fraud detection and audit efficiency. Ananda (2024) supports the view that such enhancements can lead to more accurate and reliable auditing results. Similarly, Noordin et al. (2022) emphasize that AI's impact on the efficiency and effectiveness of auditing processes is profound, particularly within the framework of external auditors operating in the UAE, where various AI types are perceived to contribute positively to audit quality. Moreover, the automation of labor-intensive tasks through AI not only reduces human error but also allows auditors to focus on more complex analyses. Rahman (2024) notes that the adoption of AI facilitates the use of automation to handle routine audit tasks, which enhances the overall quality of audits by minimizing the potential for human error. This sentiment is echoed by Seethamraju & Hecimovic (2022), who argue that the perceived benefits of AI, including cost efficiency and improved judgment capabilities, drive its adoption in auditing, ultimately leading to higher quality audits.

The incorporation of Artificial Intelligence (AI) into auditing practices has become a powerful catalyst for improving audit quality, while simultaneously introducing various challenges. AI technologies, especially machine learning and data analytics, have demonstrated a notable ability to increase the accuracy and efficiency of audits. Methods driven by AI also boost the effectiveness of fraud detection, a vital aspect of audit quality (Ananda, 2024). This assertion is supported by Ikhsan et al. (2022), who found that AI-driven fraud detection models exhibit high accuracy, thereby improving overall audit quality. Such advancements underscore the potential of AI is used not only to simplify audit procedures but also to strengthen the dependability of audit results.

AI-driven automation streamlines basic procedures, allowing auditors to engage in more value-added activities that contribute to higher-quality audits. The integration of AI tools can facilitate better data quality and ease of integration with existing systems, which is crucial for effective auditing (Seethamraju & Hecimovic, 2022). Similarly, Odeyemi et al. (2023) highlight that AI enhances data analysis and anomaly detection, enabling auditors to allocate more time to strategic decision-making rather than routine tasks. This shift in focus is vital for maintaining high standards of audit quality in an increasingly complex financial landscape.

The incorporation of Artificial Intelligence (AI) into auditing is transforming the way audit quality is achieved and maintained, presenting both significant opportunities and challenges. The application of AI in data analytics and machine learning is significantly improving auditors' capacity to uncover fraud and enhance the precision of financial statements. For instance, Rahman (2024) asserts that AI enhances audit quality by automating labor-intensive substantive testing, thereby reducing human error and increasing efficiency. This is corroborated by Fedyk et al., who found that AI allows audit firms to improve their processes while operating with fewer employees, ultimately leading to higher audit quality and lower audit fees (Fedyk et al., 2022). Big data analytics is being adopted more widely in auditing practices. Sun and Vasarhelyi highlight that integrating big data as supplementary audit evidence helps identify anomalies and predict fraud, thereby greatly improving audit quality. (Sun & Vasarhelyi, 2018). This capability is crucial in today's data-driven environment, where auditors must sift through vast amounts of information to identify irregularities. AI contributes to increased data accuracy and efficiency, allowing auditors to make more informed decisions based on comprehensive analyses of financial data (Mihai, 2024).

2. Socio-Technical, Ethical, and Resource-Based Challenges in AI Adoption

Table 2 presents a diverse range of theories applied by various authors in studies related to auditing, artificial intelligence, and accounting. Several theories are used to examine AI's role in auditing, such as Big Data and AI in Auditing (Gepp et al., 2019; Kend & Nguyen, 2019, 2020), AI Adoption in Auditing (Adeoye et al., 2023), and AI and Audit Efficiency (Sun & Vasarhelyi, 2019). This suggests a growing focus on how AI impacts audit processes, efficiency, and fraud detection. Traditional management and governance theories also appear, with Agency Theory (Rahman, 2024; Kend & Nguyen, 2020; Noordin et al., 2022) being one of the frequently cited frameworks. Other fundamental theories, such as Institutional Theory (Odeyemi et al., 2023), Contingency Theory (Ríkharðsson et al., 2022), and Stakeholder Theory (Odeyemi et al., 2023; García-Vera et al., 2023), highlight organizational and regulatory influences on AI and accounting practices. Furthermore, some studies explore ethical and behavioral perspectives, such as Ethical Theory (Ayling & Chapman, 2021) indicating interest in how ethical considerations and human behavior affect AI adoption in auditing. Public Sector Accountability Theory (Otia &

Bracci, 2022) and AI in Public Sector Auditing (Fedyk et al., 2022) suggest that AI's role in governmental auditing is also being investigated.

Table 2. The Theory Used by Author

Theory	Authors and Year
Ethical Theory	Ayling & Chapman (2021)
Socio-Technical Systems Theory	Dahabiyeh & Mowafi (2023)
Big Data and AI in Auditing	Gepp et al. (2019); Kend & Nguyen (2019, 2020)
Technology Acceptance Model	Seethamraju & Hecimovic (2022)
Institutional Theory	Odeyemi et al. (2023)
Audit Quality Theory	Rahman (2024); Noordin et al. (2022)
Contingency Theory	Ríkharðsson et al. (2022)
Public Sector Accountability Theory	Otia & Bracci (2022)
AI Adoption in Auditing	Adeoye et al. (2023); Khan et al. (2024)
TOE Framework for AI Implementation	Mihai (2024)
AI and Process Automation	García-Vera et al. (2023)
AI in Public Sector Auditing	Fedyk et al. (2022)
AI and Audit Efficiency	Sun & Vasarhelyi (2019)
Stakeholder Theory	Odeyemi et al. (2023); García-Vera et al. (2023)
Agency Theory	Rahman (2024); Kend & Nguyen (2020); Noordin et al. (2022)

The wide range of theories applied shows an interdisciplinary approach, integrating technological, organizational, ethical, and governance perspectives to analyze AI and auditing. This highlights the complexity of AI adoption in the accounting and auditing fields, requiring both technical and theoretical insights. The adoption of AI in auditing practices offers considerable opportunities and poses notable challenges in the pursuit of improved audit quality. This synthesis explores the current literature on the subject, highlighting the transformative potential of AI while also addressing the inherent challenges associated with its adoption.

The implementation of AI in auditing is not without its challenges. Issues such as the lack of guidance in auditing standards and the need for auditors to adapt to new technologies can hinder the effective adoption of AI (Dahabiyeh & Mowafi, 2023). Kend & Nguyen (2020) point out that while there is potential for AI to reduce errors and enhance audit quality, the uncertainty surrounding the application of emerging technologies like block chain in auditing remains a significant barrier. Additionally, ethical considerations and the need for transparency in AI applications are crucial, as highlighted by Ayling & Chapman (2021), who discuss the importance of operationalizing ethical concerns in AI deployment.

The disparity in resources between larger and smaller audit firms can create a divide in the adoption of AI technologies. Ríkharðsson et al. (2022) suggest that larger firms are more likely to implement AI-augmented auditing due to their resources, which may lead to a competitive advantage over smaller firms. This raises concerns about equity in the auditing profession and the potential for increased reliance on AI to create trust with stakeholders. The socio-technical challenges associated with using Robotic Process Automation (RPA) in auditing, indicating that while there are perceived barriers related to auditing standards, many auditors do not view these as significant impediments to the adoption of RPA (Dahabiyeh & Mowafi, 2023). This highlights a gap between the theoretical challenges identified in the literature and the practical experiences of auditors in the field.

Kend & Nguyen (2020) discuss the uncertainties surrounding the application of emerging technologies like block chain in auditing, which can complicate the integration of AI. Additionally, Adawiyah (2022) points out that while AI offers significant benefits, auditors must navigate the complexities of its implementation, including the need for adequate training and adaptation to new technologies. These challenges highlight the importance of a structured approach to integrating AI into auditing practices, ensuring that auditors are equipped to leverage these technologies effectively. Otia & Bracci (2022) explore the perceptions of public sector auditors regarding the opportunities and challenges posed by digital transformation. Continuous training and adaptation are essential for auditors to successfully utilize AI tools in their work.

3. The Transformation of Modern Auditing: Implementation, Effectiveness, and Ethical Considerations

Ethical concerns are a key factor influencing the successful implementation of AI in auditing processes. Since AI systems become more prevalent, maintaining the integrity and quality of audits is paramount. Although AI has the potential to improve audit quality, it is essential for practitioners to remain vigilant about ethical implications and the potential for over-reliance on technology (Adeoye et al., 2023). This perspective is echoed by García-Vera et al. (2023) who highlight the importance of adopting a balanced perspective that addresses both the benefits and risks associated with AI in auditing. The balance between leveraging AI for efficiency and ensuring ethical compliance is a critical consideration for the future of auditing.

The role of audit software in improving audit quality is well-documented. Alotaibi & Alnesafi (2023) conducted a study that highlights how audit software improves the precision and comprehensiveness of audit evidence, leading to an enhancement in overall audit quality. Their results are consistent with earlier studies showing that technology plays a crucial role in modern auditing practices. The ability of audit software to streamline processes and reduce human error is particularly significant in an environment where accuracy is paramount. This is further supported by Irman et al. (2021), who assert that the application of information technology is essential for effective decision-making and policy formulation within audit practices. The integration of such technologies not only enhances auditor performance but also directly correlates with improved audit quality.

Moreover, the complexity of audits has been shown to influence audit quality, particularly in the context of budget pressures and auditor experience. Kawisana & Jayanti (2022) explore how these factors, when influenced by knowledge of information systems, they impact audit quality. Their research indicates that experienced auditors who are well-versed in information systems are better equipped to handle complex audits, thereby enhancing the quality of audit outcomes. This highlights the necessity for continuous professional development and training in emerging technologies to ensure that auditors can effectively leverage these tools in their work.

The impact of remote auditing on audit quality has gained considerable attention, particularly in the wake of the pandemic. Al-Ma'aitah et al. (2024) investigate the moderating role of technology readiness in this relationship, revealing that the technological preparedness of both auditors and clients significantly influences remote audit effectiveness. This aligns with the broader trend of digital transformation in the auditing profession, where the ability to conduct audits remotely has become increasingly important. Furthermore, the ethical implications and the need for a balanced approach to AI integration in auditing are crucial considerations. Odeyemi et al. (2023) explore the transformative role of AI in auditing practices, emphasizing the importance of maintaining audit quality and integrity amidst technological advancements. The necessity for auditors to adapt to new technologies while ensuring ethical standards and quality control is a recurring theme in the literature.

CONCLUSION

Research in auditing and accounting that involves AI adopts various theories, reflecting a multidisciplinary approach. Agency Theory, Institutional Theory, and Contingency Theory are widely used to understand managerial and institutional aspects of AI implementation. Meanwhile, theories such as Big Data and AI in Auditing, AI Adoption, and AI and Audit Efficiency highlight the role of technology in enhancing audit efficiency and effectiveness. Additionally, ethical and human behavior aspects are considered through Ethical Theory and the Theory of Planned Behavior, emphasizing adoption challenges from ethical and psychological perspectives. Studies related to Public Sector Accountability Theory and AI in Public Sector Auditing indicate a focus on transparency and accountability in the public sector. This research confirms that AI implementation in auditing and accounting is not only viewed from a technological perspective but is also influenced by organizational, regulatory, ethical, and user behavior factors.

The incorporation of Artificial Intelligence (AI) and Big Data technologies is revolutionizing the auditing profession, offering significant enhancements in audit quality through automation, improved data analysis, and heightened fraud detection capabilities. AI enables auditors to shift their focus from routine, labor-intensive tasks to more complex, judgment-intensive work, resulting in increased efficiency and reduced human error. Furthermore, The application of machine learning and natural language processing technologies supports more accurate anomaly detection and risk assessments, thereby improving the overall reliability of audit outcomes.

Despite these benefits, the adoption of AI in auditing is not without challenges. Socio-technical barriers, ethical concerns, and resource constraints, particularly in smaller audit firms, pose significant hurdles to widespread implementation. The disparity in technological readiness across firms highlights a growing need for structured guidance, training, and standardization in AI integration. Ethical considerations also remain central to the responsible use of AI, as over-reliance on automated systems can risk compromising the integrity and

transparency of the audit process. Ultimately, the transformation of modern auditing through digital tools demands a balanced approach, one that embraces technological advancement while maintaining professional skepticism, ethical rigor, and a commitment to audit quality. As AI continues to reshape the auditing landscape, auditors must evolve alongside these changes, adopting new skills and frameworks to maintain ongoing reliability and efficiency of the profession in an increasingly data-driven world.

This Systematic Literature Review is based on secondary data derived from previously published studies. This limits the ability to capture real-time practical experiences and perspectives from practitioners currently implementing AI in auditing. While the study aimed to cover a broad range of articles, the selection was restricted to specific databases which may have excluded relevant studies published in other reputable sources. Most of the reviewed studies employed qualitative approaches, resulting in a limited number of empirical and quantitative findings that can provide statistical generalizability. Consequently, the conclusions drawn may reflect more on perceived opportunities and challenges rather than measured impacts. Due to the rapid progression of AI and the constant emergence of new auditing technologies and standards, past findings may lose their applicability. Future research should prioritize long-term or real-time case analyses to monitor these ongoing changes effectively.

REFERENCES

Adawiyah, D. (2022). Perilaku auditor menyikapi munculnya artificial intelligence dalam proses audit. *Jurnal Publikasi Ekonomi Dan Akuntansi*, *2*(1), 52-60. https://doi.org/10.51903/jupea.v2i1.152

Adeoye, I., Akintoye, I., Aguguom, T., & Olagunju, O. (2023). Artificial intelligence and audit quality: implications for practicing accountants. *Asian Economic and Financial Review*, *13*(11), 756-772. https://doi.org/10.55493/5002.v13i11.4861

Al-Ma'aitah, R., Al-Hajaya, K., Sawan, N., & Alzeban, A. (2024). The impact of remote auditing on audit quality: the moderating role of technology readiness. *Managerial Auditing Journal*, *39*(6), 624-647. https://doi.org/10.1108/maj-02-2024-4210

Al-Shaer, H., & Zaman, M. (2022). Artificial intelligence in auditing: Challenges and opportunities. *Journal of International Accounting, Auditing and Taxation*, *48*. https://doi.org/10.1016/j.intaccaudtax.2022.100495

Alotaibi, E. and Alnesafi, A. (2023). Assessing the impact of audit software on audit quality: auditors' perceptions. *International Journal of Applied Economics Finance and Accounting*, *17*(1), 97-108. https://doi.org/10.33094/ijaefa.v17i1.1068

Ananda, R. (2024). Assessment audit: how artificial intelligence affected audit quality of sustainability report based on auditors perspective. *Information Management and Business Review*, *16*(3(I)S), 152-158. https://doi.org/10.22610/imbr.v16i3(i)s.4049

Antwi, et al. (2024). Enhancing audit accuracy: the role of ai in detecting financial anomalies and fraud. *Finance & Accounting Research Journal*, *6*(6), 1049-1068. https://doi.org/10.51594/farj.v6i6.1235

Ayling, J., & Chapman, A. (2021). Putting ai ethics to work: are the tools fit for purpose?. *Ai and Ethics*, *2*(3), 405-429. https://doi.org/10.1007/s43681-021-00084-x

Černevičienė, J., & Kabasinskas, A. (2024). Explainable artificial intelligence (XAI) in finance: a systematic literature review. *Artificial Intelligence Review*, *57*(8). https://doi.org/10.1007/s10462-024-10854-8

Dahabiyeh, L., & Mowafi, O. (2023). Challenges of using rpa in auditing: a socio-technical systems approach. *Intelligent Systems in Accounting Finance & Management*, *30*(2), 76-86. https://doi.org/10.1002/isaf.1537

DeFond, M. L., & Zhang, J. (2014). A Review of Archival Auditing Research. *Journal of Accounting and Economics*, *58*(2-3), 275–326. https://doi.org/10.1016/j.jacceco.2014.09.002

Federicco, T., & Tandiono, R. (2023). An exploratory study of the familiarity and the perceptions of continuous auditing technology in indonesia. E3s *Web of Conferences*, 388, 03005. https://doi.org/10.1051/e3sconf/202338803005

Fedyk, A., Hodson, J., Khimich, N., & Fedyk, T. (2022). Is artificial intelligence improving the audit process?. *Review of Accounting Studies*, *27*(3), 938-985. https://doi.org/10.1007/s11142-022-09697-x

Francis, J. (2011). A framework for understanding and researching audit quality. *Auditing: A Journal of Practice & Theory*, *30*(2), 125–152. https://doi.org/10.2308/ajpt-50006

García-Vera, Y., Maldonado, F., & Torres-Gallegos, V. (2023). Automatización de procesos contables mediante inteligencia artificial: oportunidades y desafíos para pequeños empresarios ecuatorianos. *Revista Transdiciplinaria De Estudios Sociales Y Tecnológicos*, 3(3), 68-74. https://doi.org/10.58594/rtest.v3i3.93

Gepp, A., Linnenluecke, M., O'Neill, T., & Smith, T. (2019). Big data techniques in auditing research and practice: current trends and future opportunities. *Journal of Accounting Literature*, *40*(1), 102-115. https://doi.org/10.1016/j.acclit.2017.05.003

Ikhsan, W., Ednoer, E., Kridantika, W., & Firmansyah, A. (2022). Fraud detection automation through data analytics and artificial intelligence. *Riset: Jurnal Aplikasi Ekonomi Akuntansi dan Bisnis, 4*(2), 103-119. https://doi.org/10.37641/riset.v4i2.166

International Auditing and Assurance Standards Board (IAASB). (2014). *A Framework for Audit Quality: Key Elements that Create an Environment for Audit Quality*. International Federation of Accountants. Retrieved from https://www.ifac.org

Irman, M., Suhendra, E., & Diana, H. (2021). Work experience, professionalism, independence and the application of information technology on auditor performance in order to increasing audit quality at the financial audit agency of the republic of indonesia representative of the riau province. *Journal of Applied Business and Technology, 2*(3), 206-222. https://doi.org/10.35145/jabt.v2i3.78

Kawisana, P., & Jayanti, L. (2022). The effect of audit complexity of budget pressure time and auditor experience on audit quality with an understanding of information systems as a moderate variable. *Journal of Tourism Economics and Policy, 2*(2), 93-97. https://doi.org/10.38142/jtep.v2i2.353

Kend, M., & Nguyen, L. (2020). Big data analytics and other emerging technologies: the impact on the australian audit and assurance profession. *Australian Accounting Review, 30*(4), 269-282. https://doi.org/10.1111/auar.12305

Khan, F., Jan, S. U., & Zia-ul-haq, H. M. (2024). Artificial intelligence adoption, audit quality and integrated financial reporting in GCC markets. *Asian Review of Accounting.* https://doi.org/10.1108/ARA-03-2024-0085

Knechel, W. R., Krishnan, G. V., Pevzner, M., Shefchik, L. B., & Velury, U. K. (2020). Audit quality: Insights from the academic literature. *Auditing: A Journal of Practice & Theory, 39*(1), 1–38. https://doi.org/10.2308/ajpt-15-009

Kokina, J., Pachamanova, D., & Corbett, A. (2021). The role of data analytics and AI in modern auditing. *Journal of Emerging Technologies in Accounting, 18*(1), 27–50. https://doi.org/10.2308/JETA-2020-003

Lugli, E., & Bertacchini, F. (2022). Audit quality and digitalization: some insights from theitalian context. *Meditari Accountancy Research, 31*(4), 841-860. https://doi.org/10.1108/medar-08-2021-1399

Mihai, M. (2024). Toe framework elements used on artificial intelligence implementation in the accounting and audit sector. *International Journal of Research in Business and Social Science, 13(*4), 335-349. https://doi.org/10.20525/ijrbs.v13i4.3374

Noordin, N., Hussainey, K., & Hayek, A. (2022). The use of artificial intelligence and audit quality: an analysis from the perspectives of external auditors in the uae. *Journal of Risk and Financial Management, 15*(8), 339. https://doi.org/10.3390/jrfm15080339

Odeyemi, O., Awonuga, K., Mhlongo, N., Ndubuisi, N., Olatoye, F., & Daraojimba, A. (2023). The role of ai in transforming auditing practices: a global perspective review. *World Journal of Advanced Research and Reviews, 21*(2), 359-370. https://doi.org/10.30574/wjarr.2024.21.2.0460

Onwubuariri, E., Adelakun, B., Olaiya, O., & Ziorklui, J. (2024). Ai-driven risk assessment: revolutionizing audit planning and execution. *Finance & Accounting Research Journal, 6*(6), 1069-1090. https://doi.org/10.51594/farj.v6i6.1236

Otia, J., & Bracci, E. (2022). Digital transformation and the public sector auditing: the sai's perspective. *Financial Accountability and Management, 38*(2), 252-280. https://doi.org/10.1111/faam.12317

Rahman, et al. (2024). Does the adoption of artificial intelligence by audit firms and their clients affect audit quality and efficiency? evidence from china. *Managerial Auditing Journal, 39*(6), 668-699. https://doi.org/10.1108/maj-03-2023-3846

Ríkharðsson, P., Þórisson, K., Bergthorsson, G., & Batt, C. (2022). Artificial intelligence and auditing in small- and medium-sized firms: expectations and applications. *Ai Magazine, 43*(3), 323-336. https://doi.org/10.1002/aaai.12066

Russell, S. J., & Norvig, P. (2021). *Artificial Intelligence: A Modern Approach (4th ed.)*. Pearson.

Schreuder, A., & Smuts, H. (2023). Perspective chapter: audit digitalization – key impacts on the audit profession. https://doi.org/10.5772/intechopen.109042

Seethamraju, R., & Hecimovic, A. (2022). Adoption of artificial intelligence in auditing: an exploratory study. *Australian Journal of Management, 48*(4), 780-800. https://doi.org/10.1177/03128962221108440

Sun, T. & Vasarhelyi, M. (2019). Embracing textual data analytics in auditing with deep learning. *IJDAR*, 49-67. https://doi.org/10.4192/1577-8517-v18_3